

## Claims

1. Method for reducing the interfering signals in an electro-optical measuring process wherein the coherence of a light beam is reduced before incidence on a photoreceiver (2) comprising an electro-optical mixer (6).
2. Method according to Claim 1 wherein a laser beam is used as the light beam.
3. Method according to one of the Claims 1 or 2 wherein a scattering unit (3) is used to reduce the coherence.
4. Method according to Claim 3 wherein an optical fiber is used as the scattering unit (3).
5. Method according to Claim 3 wherein a rough layer (8) applied to the electro-optical mixer (6) is used as the scattering unit (3).
6. Method according to Claim 3 wherein a diffusing lens is used as the scattering unit (3).
7. Method according to one of the Claims 1 to 6 wherein a current pulse modulation or excitation of several modes of a laser beam are embodied particularly within a laser diode.
8. Electro-optical mixing device with at least one light source (1) and one photoreceiver (2) wherein a coherence suppression of a laser beam before incidence on a photoreceiver (2) particularly an electro-optical mixer (6) is achieved by means of a coherence-reducing unit.

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9. Device according to Claim 8 wherein the coherence-reducing unit is a scattering unit (3).

5 10. Device according to Claim 9 wherein the scattering unit (3) is an optical fiber.

11. Device according to Claim 9 wherein the scattering unit (3) is a diffusing lens.

10 12. Device according to Claim 9 wherein, a rough layer (8) is applied to a photoreceiver (2) as a scattering unit (3), particularly an electro-optical mixer (6).

15 13. Device according to Claim 12 wherein the rough layer (8) has scattering particles and / or a rough surface.

14. Device according to one of the Claims 9 to 13 wherein a housing (7) forms the photoreceiver (2) comprising in particular the electro-optical mixer (6) and the scattering unit (3'').

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15. Device according to Claim 8 wherein the coherence-reducing unit is a light wave modulation unit.